

ADHESIVE BRASSIERE AND ITS MANUFACTURING METHODTechnical Field

The present invention relates, in general, to a brassiere and, more particularly, to an adhesive brassiere,  
5 which adheres to a woman's breast so as to make her breast look capacious and beautiful.

Background Art

In our time, an Occidental standard of beauty has led to an increased preference for a capacious breast, bringing about  
10 frequent plastic surgeries on the breast so as to make the breast large. However, in recent years, women are apt to avoid plastic surgery because of a worry about side effects of the surgery, and thus, use of various functional brassieres capable of making the breast look capacious and beautiful is  
15 growing as an alternative proposal.

There are many types of the functional brassieres. Particularly, since a silicone material has excellent temperature properties, flexibility, and density, it has been already adopted as a material of the brassiere.

20 FIGS. 1a and 1b schematically illustrate a conventional brassiere. Referring to FIG. 1a, the brassiere 100 includes a

silicone pack 20, in which a silicone composition is stuffed in a pack made of a film, such as polyethylene, polypropylene, polystyrene, and polyester, and inner and outer cloths 12, 11 covering the silicone pack 20. Hence, the conventional  
5 brassiere serves to make a user's breast to look large when a user wears it as shown in FIG. 1b.

Meanwhile, one of current functional brassieres is an adhesive brassiere directly adhering to a breast without straps, unlike a typical brassiere. The adhesive brassiere  
10 includes an outer shell made of thermoplastic polyurethane (TPU), a silicone composition stuffed into the outer shell, and an adhesive silicone film formed on a portion of an outer side of the outer shell, coming into contact with the breast. FIG. 2 schematically illustrates such a conventional adhesive  
15 brassiere. In this regard, the silicone composition 24 is stuffed into the outer shell 22 made of a TPU material, and a silicone adhesive layer 26 with a predetermined thickness is formed on a portion of the outer side of the outer shell 22, which comes into contact with the breast. A user just adheres  
20 the conventional adhesive brassiere to her own breast to wear the brassiere. The conventional adhesive brassiere has a simple structure without straps, and the user can easily use and remove it.

With reference to FIGS. 1a and 1b, the conventional  
25 functional brassiere, which adopts only the silicone pack,

must be provided with supplementary structures, such as shoulder straps and wings, as well as brassiere cups.

Meanwhile, the conventional functional adhesive brassiere as shown in FIG. 2 has a structure in which the silicone composition is completely covered with TPU and the adhesive layer is applied in a form of film on a surface of a portion of TPU, that is, a portion of the brassiere coming into contact with a user's breast. Therefore, adhesive strength of the brassiere is gradually reduced according to an abrasion of the adhesive layer, and thus, after the brassiere is repeatedly worn a predetermined number of times, the brassiere cannot fulfill its function because of the reduced adhesive strength. Hence, when the adhesive layer of the brassiere is abraded, a life of the brassiere is ended even though the remaining portions constituting the brassiere are in perfect order.

#### Disclosure of the Invention

Accordingly, the present invention has been made keeping in mind the above problems occurring in the prior art, and an object of the present invention is to provide an adhesive

brassiere, which is removably worn on a user by adhesion, thus being used without supplementary structures, such as shoulder straps or wings, of FIGS. 1a and 1b, and which can be semi-permanently used unlike a conventional adhesive brassiere of FIG. 2. In other words, the adhesive brassiere of the present invention has a significantly improved structure, in comparison with the conventional adhesive brassiere, to maintain desired adhesive strength even though it is repeatedly used many times, and thus, the adhesive brassiere of the present invention can be semi-permanently used.

In order to accomplish the above object, the present invention provides an adhesive brassiere, which includes a first bulk structure made of an adhesive silicone composition. An outer film covers an outer surface of the first bulk structure, and a second bulk structure is formed in the first bulk structure made of the adhesive silicone composition. In this respect, the first bulk structure is of a woman's breast-like shape with its inside being hollowed like a bowl, the outer film adheres to the outer surface of the first bulk structure, and the second bulk structure is made of a material with a lower specific gravity than the adhesive silicone

composition constituting the first bulk structure.

Furthermore, the present invention provides an adhesive brassiere, which includes a first bulk structure made of an adhesive silicone composition. An outer film covers an outer  
5 surface of the first bulk structure. In this regard, the first bulk structure is of a woman's breast-like shape with its inside being hollowed like a bowl, and the outer film adheres to the outer surface of the first bulk structure.

Additionally, the present invention provides a method of  
10 producing an adhesive brassiere, which includes molding an outer film, placing the molded outer film in a mold for molding brassiere cups, pouring an adhesive silicone in the mold in which the outer film is placed, molding the adhesive silicone into a predetermined shape, and hardening the adhesive  
15 silicone.

#### Brief Description of the Drawings

The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the  
20 accompanying drawings, in which:

FIGS. 1a and 1b illustrate a conventional brassiere adopting a silicone pack;

FIG. 2 schematically illustrates a conventional adhesive brassiere;

5        FIGS. 3 and 4 illustrate adhesive brassieres according to the first and second embodiments of present invention, respectively;

FIGS. 5a to 5d illustrate a production of the adhesive brassiere according to the present invention;

10      FIGS. 6a to 6c illustrate a production of the conventional adhesive brassiere; and

FIGS. 7a to 7d illustrate the adhesive brassiere according to the present invention, which is provided with links.

#### Best Mode for Carrying Out the Invention

15        Reference should now be made to the drawings, in which the same reference numerals are used throughout the different drawings to designate the same or similar components.

FIG. 3 illustrates an adhesive brassiere according to the first embodiment of the present invention. An outer film 30 forms an outer part of the brassiere. The outer film 30 is typically made of thermoplastic urethane (TPU) and the like, and has a shape corresponding to a woman's breast. In this regard, the outer film 30 may be made of a thermoplastic resin, such as polyethylene, polypropylene, vinyl chloride resin, vinyl acetate resin, polystyrene, ABS resin, and acryl resin, as well as TPU. A first bulk structure 32 made of an adhesive silicone composition is formed on a rear surface of the outer film 30. Adhesive silicone or the adhesive silicone composition is known in the art, and is used in conjunction with a plasticizer and the like. Furthermore, commercial pressure-sensitive adhesives (PSA) may be used as the adhesive silicone composition. The first bulk structure is of a woman's breast-like shape with its inside being hollowed like a bowl. Optionally, the first bulk structure may be further hollowed at a portion thereof which comes into contact with a woman's nipple. The adhesive silicone composition of the first bulk structure adheres to the outer film 30 to be combined with the outer film 30. In this respect, after the outer film 30 is molded and placed in a mold

for molding the silicone composition, the adhesive silicone composition is poured on the molded outer film 30, molded, and heated to be hardened. Through the hardening process, adhesive components of the adhesive silicone composition firmly adhere to the outer film 30, thereby strongly adhering the first bulk structure 32 made of the silicone composition to the outer film 30. Unlike a commonly accepted idea in the art, in the present invention, only a half of an external surface of such a silicone composition structure, that is, a front part of the silicone composition structure is covered with the outer film 30, but its rear part is not. Additionally, the silicone composition bulk structure has adhesive strength. In other words, unlike a conventional adhesive brassiere, only a front surface of the silicone structure comes into contact with the outer film 30, but a rear surface of the silicone structure is exposed and directly comes into contact with the woman's breast. Meanwhile, a second bulk structure 34, made of a material having a lower specific gravity than the adhesive silicone, such as a sponge, may be contained in the first bulk structure 32 made of the adhesive silicone composition. The second bulk structure 34 contributes to weight reduction of the



brassiere, thereby reducing discomfort due to a weight of the brassiere when a user wears the brassiere. Of course, the second bulk structure 34 may have various shapes and sizes.

FIG. 4 illustrates an adhesive brassiere according to the second embodiment of present invention. An outer film 30 forms an outer part of the brassiere. The outer film 30 is typically made of TPU and the like. A first bulk structure 32 made of the adhesive silicone composition is formed on a rear side of the outer film 30, and the adhesive silicone composition of the first bulk structure 32 adheres to the outer film 30 to be combined with the outer film 30. In this regard, an antibiotic deodorant 38 is applied on a portion of a rear side of the first bulk structure, and preferably on its center coming into contact with the woman's nipple. Needless to say, an amount of the antibiotic deodorant is properly controlled so as not to reduce adhesive strength. The brassiere according to the second embodiment may further include the second bulk structure as shown in FIG. 3.

In the case of producing the adhesive brassiere of FIG. 3, the outer film made of TPU is molded into a predetermined shape as shown in FIG. 5a. Subsequently, the molded outer film 52 is

placed in a mold for molding brassiere cups as shown in FIG.

5b. A predetermined amount of adhesive silicone 54 is then poured on the outer film 52 as shown in FIG. 5c. Successively, the adhesive silicone 54 is molded into a predetermined shape as shown in FIG. 5d, and hardened at a predetermined temperature to maintain the shape of the adhesive silicone 54.

The production process of the brassiere according to the present invention as shown in FIGS. 5a to 5d is greatly simplified in comparison with that of the conventional adhesive brassiere as shown in FIG. 2. As for the production of the conventional adhesive brassiere of FIG. 2, after two TPU films are molded into an inner film 62 and an outer film 64 and lapped as shown in FIG. 6a, they are attached to each other at rims thereof while leaving an opening 68 to form a bag made of the TPU films as shown in FIGS. 6b and 6c. FIG. 6b is a sectional view of the bag, and FIG. 6c is a plan view of the bag. Subsequently, a predetermined amount of silicone is injected into the bag. The resulting bag is molded using a mold for molding brassiere cups, and hardened at a predetermined temperature to maintain a predetermined shape of silicone. Portions of the TPU films, which correspond to the

opening 68, are then attached to each other while the silicone is contained in the bag. Successively, an adhesive silicone layer is formed on a surface of the inner film, coming into contact with the breast. To sum up, a method of producing the conventional adhesive brassiere comprises additional steps, that is, an attachment between the rims of the TPU films, an attachment between portions of the TPU films, corresponding to the opening, and a formation of the adhesive silicone layer, in comparison with a method of the present invention as shown in FIGS. 5a to 5d. In other words, the conventional method further comprises three steps in comparison with the method of the present invention.

FIGS. 7a to 7d illustrate the adhesive brassiere according to the present invention, which is provided with links. A pair of brassiere cups as shown in FIGS. 3 or 4 are connected to each other by the links. The adhesive brassiere as described above functions to gather and push up breasts.

FIG. 7a illustrates the adhesive brassiere of the present invention, which is provided with first and second links 72, 74. The first and second links 72, 74 help to gather and push up the breasts. A second part 89 of the second link 74 is

downwardly moved along a first part 88 of the first link 72 while the second link 74 is at right angles to the first link 72 to engage the first part 88 of the first link 72 with the second part 89 of the second link 74, and the first and second links 72, 74 are then unfolded so that the first link 72 is at an angle of 180 degrees to the second link 74 to lock protrusions 85, 87 in holes 86, 84, respectively. FIG. 7b illustrates the adhesive brassiere of the present invention, in which the first and second links 72, 74 of FIG. 7a are completely coupled with each other. In the case of separating the two links 72, 74 from each other, after the two links are positioned to be at right angles to each other, the second part 89 of the second link 74 is upwardly moved along the first part 88 of the first link 72 according to a procedure contrary to the case of the coupling of the two links, thereby completing the separation of the two links.

FIG. 7c illustrates the adhesive brassiere of the present invention, which is provided with third and fourth links 100, 102. Like the case of the first and second links 72, 74, a fourth part 95 of the fourth link 102 is downwardly moved along a third part 94 of the third link 100 while the fourth link 102

is at right angles to the third link 100 to engage the fourth part 95 with the third part 94, and the third and fourth links 100, 102 are then unfolded so that the third link 100 is at an angle of 180 degrees to the fourth link 102 to firmly lock the  
5 fourth link 102 into the third link 100 as shown in FIG. 7d.  
In addition to the links as shown in FIGS. 7a to 7d, commercially known links may be applied to the adhesive brassiere of the present invention.

A method of producing the adhesive brassiere of FIGS. 7a  
10 to 7d is the same as that of FIGS. 5a to 5d with the exception of the method according to FIGS. 7a to 7d further including attaching layers, provided with the links, to the outer film after the outer film is molded.

Although the preferred embodiments of the present  
15 invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

Industrial Applicability

As described above, the present invention provides an adhesive brassiere, which removably adheres to a breast without shoulder straps and wings, and thus, a user can easily put on  
5 and remove the adhesive brassiere. Additionally, unlike a conventional adhesive brassiere, since a portion of the adhesive brassiere of the present invention, coming into contact with the breast, does not consist of a film structure but a bulk structure, a reduction of a life of the brassiere is  
10 not caused by an abrasion of an adhesive layer of the brassiere even though the user repeatedly puts on and removes the adhesive brassiere, and thus, its life is semi-permanent.

Furthermore, a method of producing the adhesive brassiere according to the present invention is very simple because a two  
15 stage film attaching step and an adhesive silicone layer forming step can be omitted, unlike a conventional method.